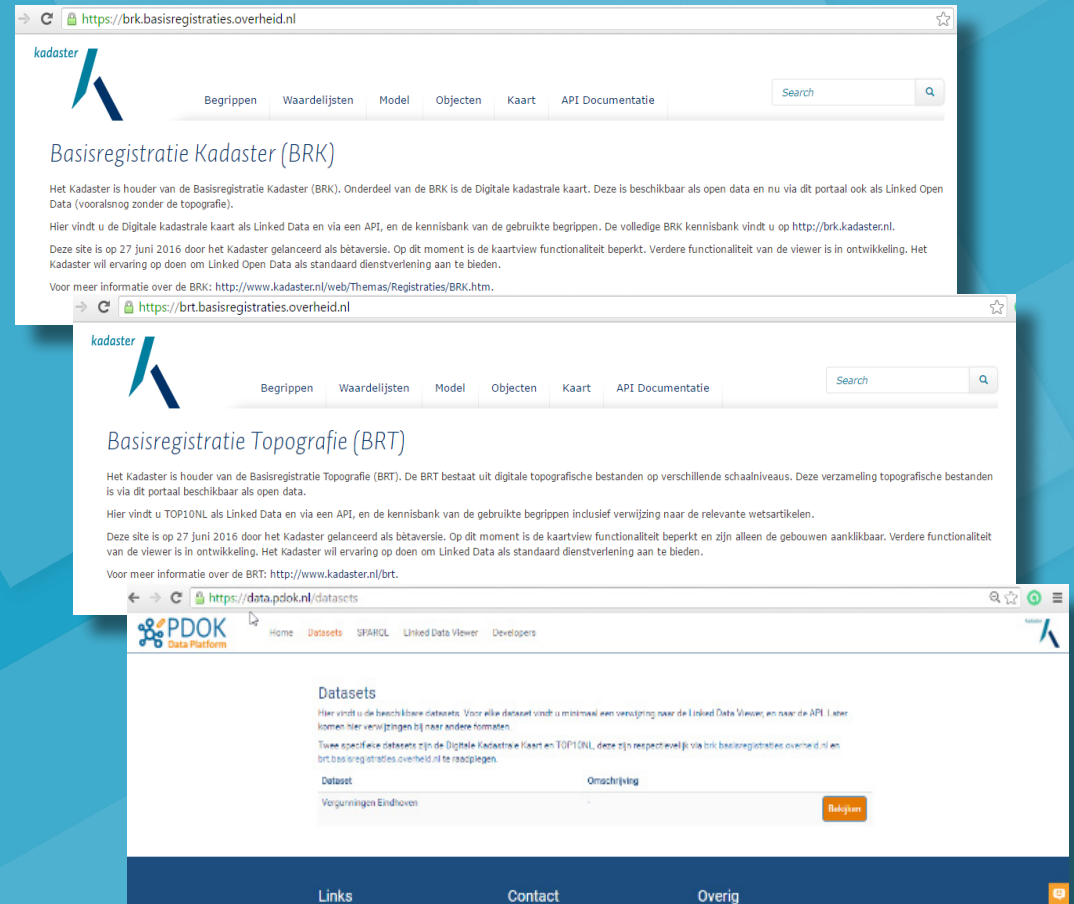
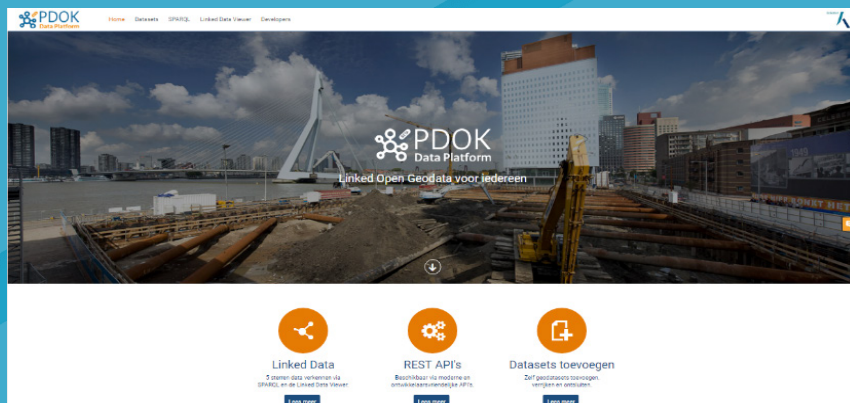


The Dutch Open Data Platform of the Future

The Dutch Kadaster launched its first release of the **Open Linked Data Platform** on the 1st of July 2016. This Dutch platform is the first in its size, enabling anyone to access and publish linked Geodata on the map. The strength of the platform lies in its open character, enabling any dataset to be transformed into Linked Data and APIs. The aim of the platform is to act as THE open Dutch Geo Data partner. Due to the **open standards** used, fully incorporating the W3C 5-star Linked Data principle. The data is easy to find and consume by data users.

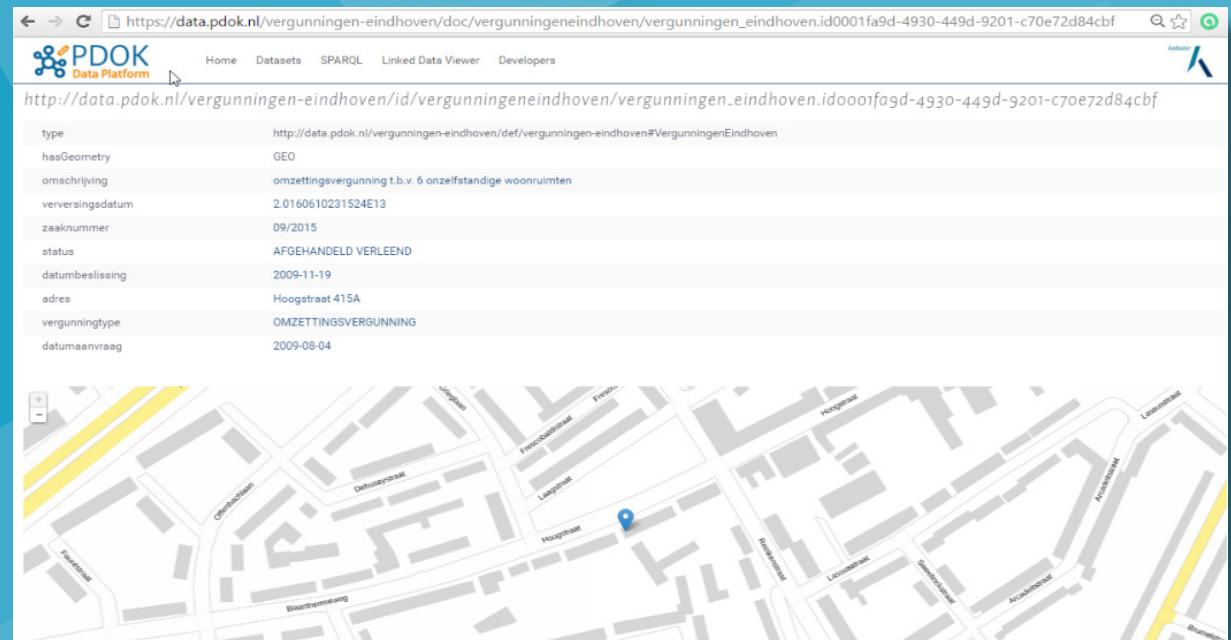


The first open datasets provided via the platform are the Digital Cadastral Map, Topographical base registry and an overview of permits that were issued in the city of Eindhoven.



Data Platform Functionality

The **Linked Data Viewer** enables visitors to see data on a map. Data from different datasets like the Base registry of Addresses and Buildings, as well as the Digital Cadastral Map will be combined on the map in a next phase. In addition, Dutch citizens will be able to report any irregularities that they may encounter with the data. This will eventually result in the improvement of data as well as the improvement of the Living Environment.



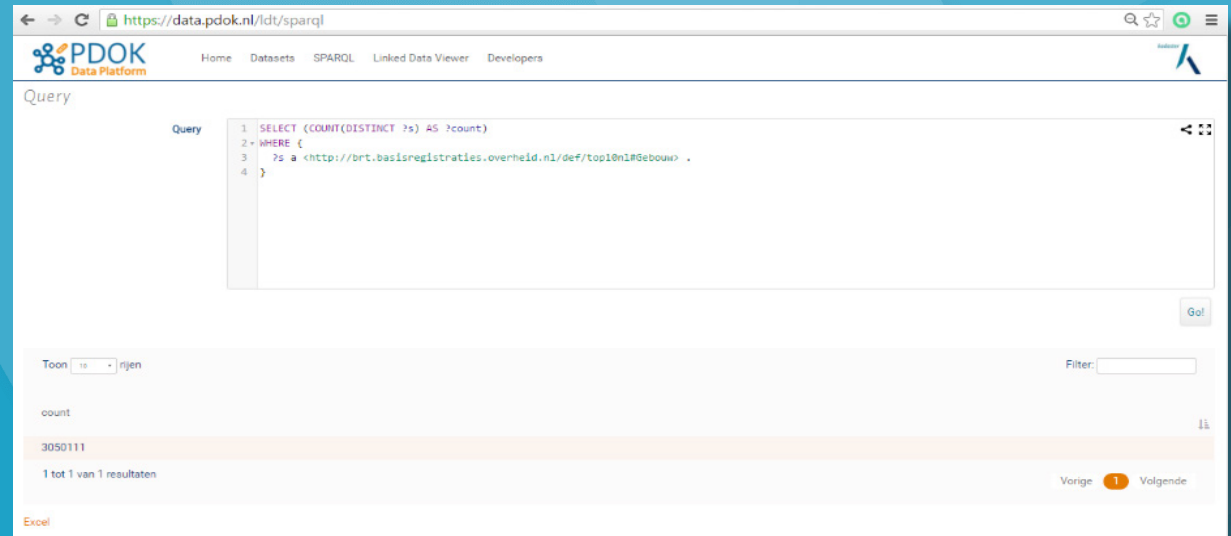
The screenshot shows the PDOK Data Platform interface. The browser address bar displays the URL: https://data.pdok.nl/vergunningen-eindhoven/doc/vergunningeneindhoven/vergunningen_eindhoven.id0001fa9d-4930-449d-9201-c70e72d84cbf. The page features a navigation menu with links for Home, Datasets, SPARQL, Linked Data Viewer, and Developers. Below the navigation, the URL is repeated: http://data.pdok.nl/vergunningen-eindhoven/id/vergunningeneindhoven/vergunningen_eindhoven.id0001fa9d-4930-449d-9201-c70e72d84cbf. A metadata table is displayed with the following information:

| | |
|------------------|---|
| type | http://data.pdok.nl/vergunningen-eindhoven/def/vergunningen-eindhoven#VergunningenEindhoven |
| hasGeometry | GEO |
| omschrijving | omzettingsvergunning t.b.v. 6 onzelfstandige woonruimten |
| verversingsdatum | 2.0160610231524E13 |
| zaaknummer | 09/2015 |
| status | AFGEHANDELD VERLEEND |
| datumbeslissing | 2009-11-19 |
| adres | Hoogstraat 415A |
| vergunningtype | OMZETTINGSVERGUNNING |
| datumaanvraag | 2009-08-04 |

Below the metadata table is a map showing a street grid with a blue location pin. The map includes labels for streets such as Hoogstraat, Debuurstrat, and Liouwstraat. A yellow highlighted area is visible on the left side of the map.

Data Platform Functionality

The **SPARQL Endpoint** enables users to query all data stored on the Platform. For instance you can see that the Netherlands has a total of approximately 3 million buildings.

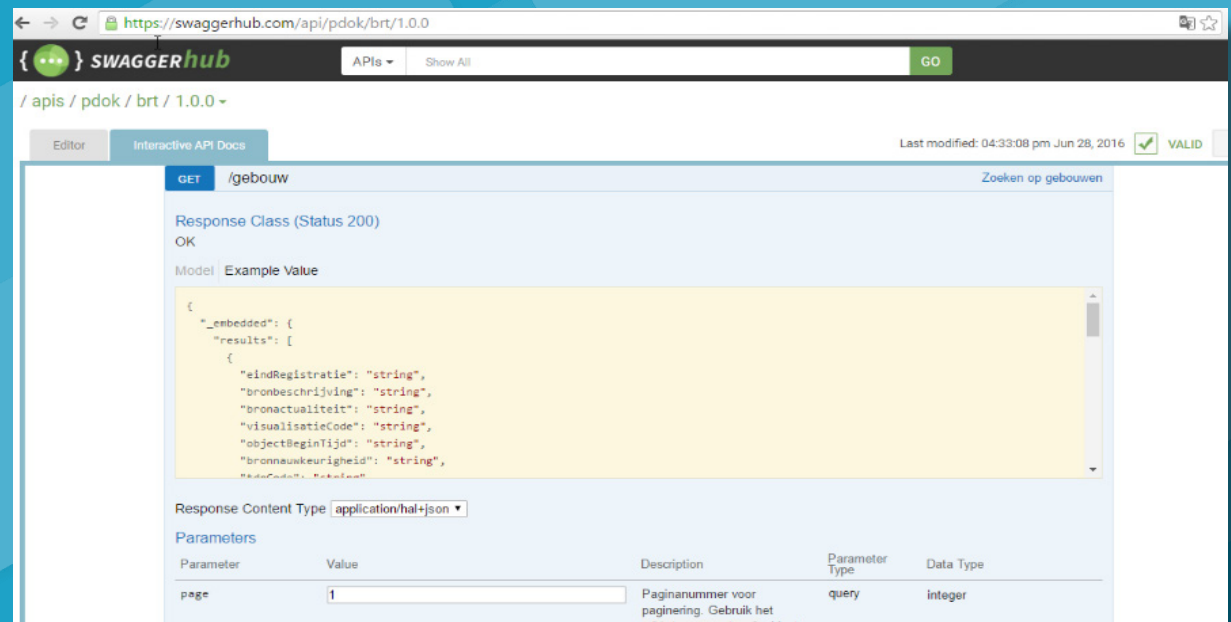


The screenshot shows the PDOK Data Platform interface. The URL is <https://data.pdok.nl/ldt/sparql>. The query is:

```
1 SELECT (COUNT(DISTINCT ?s) AS ?count)
2 WHERE {
3   ?s a <http://brt.basisregistraties.overheid.nl/def/top10n1#Gebouw> .
4 }
```

The result shows a single row with the value 3050111 for the count. The interface includes a 'Go!' button, a 'Toon' dropdown set to '10' rijen, a 'Filter' input, and a 'Vorige' button with a '1' indicator and a 'Volgende' button. An 'Excel' download link is also present.

A set of fully documented **RESTful JSON APIs** have been made available. Each API's detailed documentation is provided through SwaggerHub.



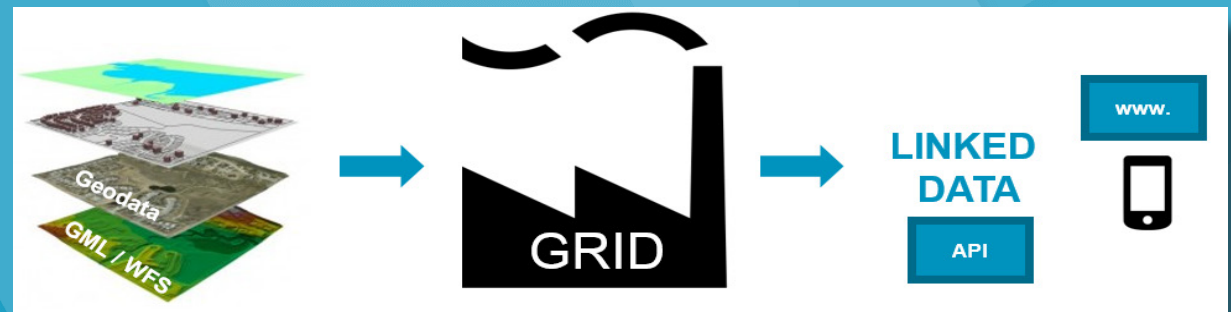
The screenshot shows the SwaggerHub API documentation for the PDOK BR/1.0.0 API. The URL is <https://swaggerhub.com/api/pdok/brt/1.0.0>. The API is documented as a GET endpoint for `/gebouw`. The response class is `Status 200 OK`. The example value is:

```
{
  "_embedded": {
    "results": [
      {
        "eindRegistratie": "string",
        "bronbeschrijving": "string",
        "bronactualiteit": "string",
        "visualisatieCode": "string",
        "objectBeginTijd": "string",
        "bronnaukeurigheid": "string",
        "bronaCode": "string"
      }
    ]
  }
}
```

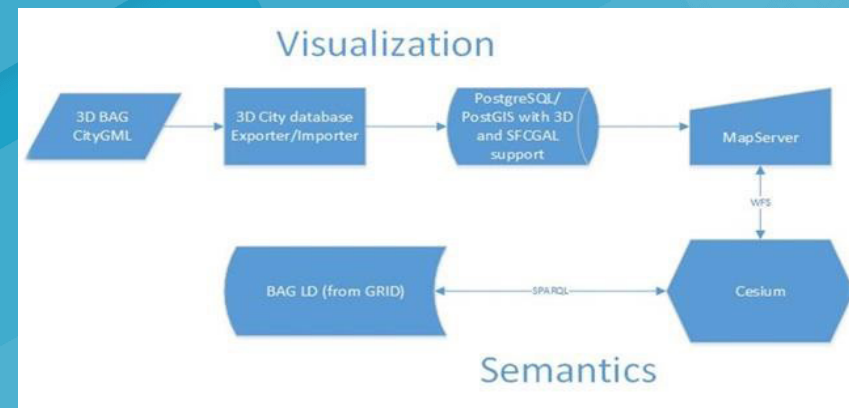
The response content type is `application/hal+json`. The parameters section shows a `page` parameter with a value of `1`, a description of 'Paginanummer voor paginering. Gebruik het links next href object', a parameter type of `query`, and a data type of `integer`.

The Data Platform “Factory”

Traditional Geo Data formats like WFS and GML are transformed in **Linked Data** and **APIs**. Future releases will enable transformation from other sources like XML. Geo Data is transformed into **RDF** through semantic enrichment.

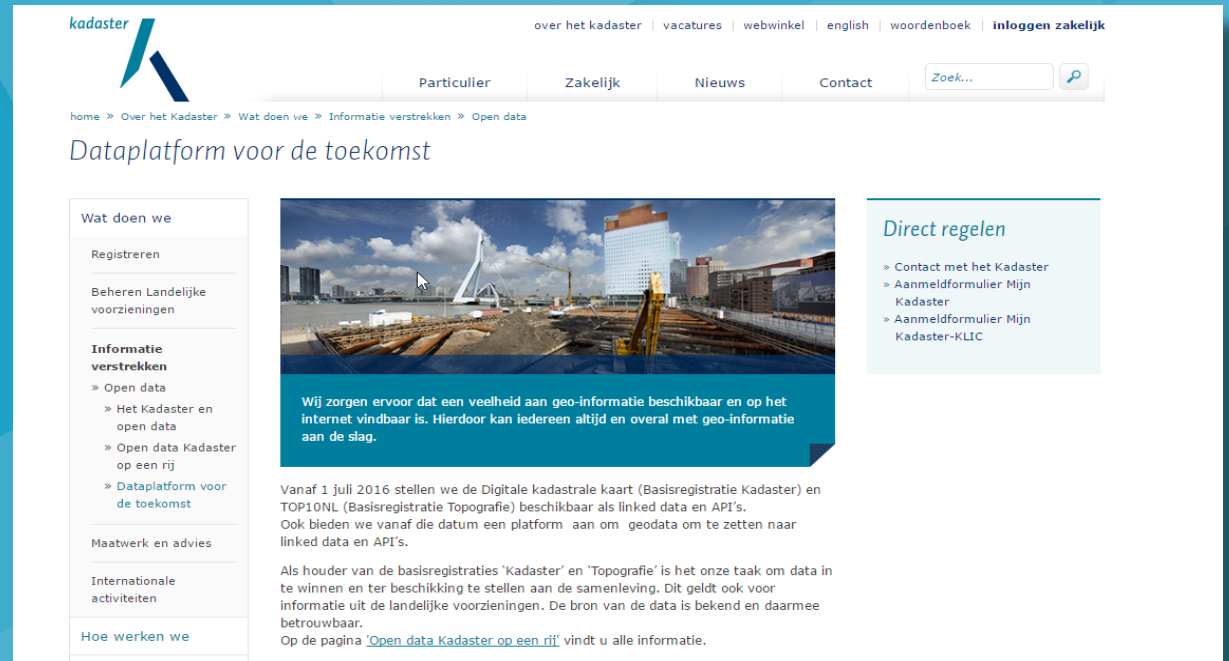


The future platform will also enable **3D functionality**, combining the Base registry of Addresses and Buildings with CityGML. This will offer the user an improved **User Experience** in the near future.



Linked Data and Kadaster

When linking **high quality** data, it will be easier for citizens, businesses and governments to find their desired information, aiding them in finding answers to specific questions. Linked Data brings coherence to information, making it easier to make decisions. In addition, search engines like Google, Bing and Yahoo are able to index the data. Datasets physically managed in different places can be questioned simultaneously through links between the data. This all results in a **State of the Art Functionality!**



The screenshot shows the Kadaster website interface. At the top, there is a navigation bar with the Kadaster logo and links for 'over het kadaster', 'vacatures', 'webwinkel', 'english', 'woordenboek', and 'inloggen zakelijk'. Below this is a secondary navigation bar with 'Particulier', 'Zakelijk', 'Nieuws', and 'Contact' tabs, along with a search bar labeled 'Zoek...'. The main content area features a breadcrumb trail: 'home > Over het Kadaster > Wat doen we > Informatie verstrekken > Open data'. The title of the page is 'Dataplatform voor de toekomst'. On the left, there is a sidebar menu with sections: 'Wat doen we' (containing 'Registreren' and 'Beheren Landelijke voorzieningen'), 'Informatie verstrekken' (containing 'Open data', 'Het Kadaster en open data', 'Open data Kadaster op een rij', and 'Dataplatform voor de toekomst'), 'Maatwerk en advies', 'Internationale activiteiten', and 'Hoe werken we'. The main content area includes a large image of a construction site with a crane and a building under construction. Below the image is a text box stating: 'Wij zorgen ervoor dat een veelheid aan geo-informatie beschikbaar en op het internet vindbaar is. Hierdoor kan iedereen altijd en overal met geo-informatie aan de slag.' To the right of the image is a 'Direct regelen' section with links: 'Contact met het Kadaster', 'Aanmeldformulier Mijn Kadaster', and 'Aanmeldformulier Mijn Kadaster-KLIC'. Below the image and text box, there is a paragraph: 'Vanaf 1 juli 2016 stellen we de Digitale kadastrale kaart (Basisregistratie Kadaster) en TOP10NL (Basisregistratie Topografie) beschikbaar als linked data en API's. Ook bieden we vanaf die datum een platform aan om geodata om te zetten naar linked data en API's.' Another paragraph follows: 'Als houder van de basisregistraties 'Kadaster' en 'Topografie' is het onze taak om data in te winnen en ter beschikking te stellen aan de samenleving. Dit geldt ook voor informatie uit de landelijke voorzieningen. De bron van de data is bekend en daarmee betrouwbaar. Op de pagina 'Open data Kadaster op een rij' vindt u alle informatie.'

What to Expect in the Near Future

Connecting Data Semantic and Geographical Data will be interlinked, starting with the Base registry for Addresses and Buildings as well as the Digital Cadastral Map.

Richer User Interface more visualisations like 3D, improved Development Portal, more metadata, improved findability through Google and other search engines and more to come...

Self Service enabling data providers to load their datasets automatically including a Semantic Mapping functionality.

Feedback Service enabling users to report any irregularities on the map.

Keep watching us!

